

WHAT IS CLAIMED IS:

1. An apparatus for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the apparatus comprising:

a gray voltage generator generating a plurality of gray voltages;

5 a data driver selecting data voltages from the gray voltages corresponding to image data and applying the data voltages to the pixels; and

a signal controller supplying the image data for the data driver, determining whether image represented by the image data is motion image or still image based on the difference in the image data between frames, and suspending predetermined control operation if the image is determined to be a still image.

2. The apparatus of claim 1, wherein the predetermined control operation includes at least one of image data modifications that include DCC (dynamic capacitance compensation), ACCE (adaptive color contrast enhancement), and ACC (accurate color capture).

3. The apparatus of claim 1, wherein the signal controller determines the image as a motion image when the number of the pixels having different image data between two adjacent frames or the number of the pixels having the difference in the image data between two adjacent frames larger than a predetermined value is more than a predetermined number.

4. The apparatus of claim 1, wherein the signal controller comprises:
a data comparator comparing a present image data with a previous image data for each pixel and generating a first comparison signal for each pixel row, the first comparison signal having pulses generated when the present image data differs from the previous image data or when the difference between the present image data and the previous image data is larger than a predetermined value;

a first counter counting the number of the pulses contained in each of the first comparison signals and generating a second comparison signal for each frame, the second comparison signal having pulses generated when the number of the counted pulses in the respective first comparison signals is larger than a first predetermined number;

a second counter counting the number of the pulses contained in each of the second comparison signals and generating a third comparison signal for each of first

periods, the third comparison signal having pulses generated when the number of the counted pulses in the respective second comparison signals is larger than a second predetermined number; and

a frame state detector determining that image data for respective second periods following the first periods represent motion images if the respective number of the pulses contained in the third comparison signals for the first periods is more than a third predetermined number and, that if not, the image data for the second periods represent as still images, and outputting an image type selection signal having a first state or a second state based on the determination.

5 5. The apparatus of claim 4, wherein the first predetermined number is larger than 30% of the total number of possible pulses in the first comparison signal.

6. The apparatus of claim 4, wherein the second predetermined number is larger than 30% of the total number of possible pulses in the second comparison signal.

10 7. The apparatus of claim 4, wherein the third predetermined number is equal to or larger than one.

8. The apparatus of claim 4, wherein a first period includes five sequential frames.

15 9. The apparatus of claim 8, wherein a second period includes twenty five sequential frames.

20 10. The apparatus of claim 9, wherein a type of an image for a first period is determined to be the same as the type of the image for a preceding second period.

25 11. The apparatus of claim 4, wherein the image type selection signal maintains either the first state or the second state during a second period and a following first period, and the first state is one of a high state or a low state.

12. The apparatus of claim 1, wherein the signal controller further comprises a frame memory storing image data for at least one frame.

13. A method for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the method comprising:

30 reading out image data of a previous frame and of a present frame;

 comparing the image data of the previous frame with the image data of the present frame for every pixel;

generating a first comparison signal for each pixel row, the first comparison signal including pulses generated when the image data of the previous frame differs from the image data of the present frame or the difference between the image data of the previous frame and the image data of the present frame is larger than a predetermined value;

counting the number of the pulses included in each of the first comparison signals;

generating a second comparison signal for each frame, the second comparison signal including pulses generated when the number of the counted pulses in the respective first comparison signals is larger than the first predetermined number;

counting the number of the pulses included in each of the second comparison signals;

generating a third comparison signal for each of first periods, the third comparison signal including pulses generated when the number of the counted pulses in the respective second comparison signals is larger than a second predetermined number;

determining that image data for respective second periods following the first periods represent motion image when the respective number of the pulses included in the third comparison signals is larger than a third determined number, determining as still image if not; and

suspending predetermined control operation if the image data represent still image.

14. The method of claim 13, wherein a first period includes five sequential frames.

15. The method of claim 14, wherein a type of an image for a first period is determined to be the same as the type of the image for a preceding second period.

16. The method of claim 13, wherein a second period includes twenty five sequential frames.

17. The method of claim 16, wherein a type of an image for a first period is determined to be the same as the type of the image for a preceding second period.